

## CLAIMS

### WHAT IS CLAIMED IS:

- 5           1.       A system for providing location-based messaging, comprising:  
a mobile handheld device including  
a display,  
an antenna,  
a memory circuit in which are programmed a range area, a target location and  
10           a target message, and  
a determining circuit that determines a location of the mobile handheld  
device from location information via the antenna,  
wherein, if the determining circuit determines that the determined location of the  
mobile handheld device is within the range area that is centered on the target location, then  
15           the display displays the target message.
2.       A mobile wireless communications device that provides location-based  
responses and is in communication with a positioning system, the mobile wireless  
communications device comprising:  
20           an antenna;  
a memory unit in which are programmed a range area, a target location and a target  
response; and

a determining unit that determines a location of the mobile wireless communications device from location information received from the positioning system via the antenna,

wherein, if the determining unit determines that the determined location of the mobile wireless communications device is within the target range area that corresponds to the target location, then the mobile wireless communications device provides the target response corresponding to the target location.

3. The mobile wireless communications device according to claim 2, wherein the positioning system includes a global positioning system (GPS).

4. The mobile wireless communications device according to claim 2, wherein the positioning system includes a wireless communications network.

5. The mobile wireless communications device according to claim 2, wherein the positioning system includes a cellular communications network.

6. The mobile wireless communications device according to claim 2, wherein the mobile wireless communications device is a cellular phone.

7. The mobile wireless communications device according to claim 2, wherein the mobile wireless communications device is a wireless handheld communications device, a laptop computer with a wireless modem, a pager or a personal digital assistant (PDA).

8. The mobile wireless communications device according to claim 2,  
wherein the target range area is programmed as a two-dimensional shape, and  
wherein the target location is located inside the two-dimensional shape.

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9. The mobile wireless communications device according to claim 2,  
wherein the target range area is programmed as a three-dimensional space, and  
wherein the target location is located inside the three-dimensional space.

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10. The mobile wireless communications device according to claim 2, wherein  
the target range area is time sensitive.

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11. The mobile wireless communications device according to claim 2, wherein  
the target response includes displaying a message on a display of the mobile wireless  
communications device.

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12. The mobile wireless communications device according to claim 2, wherein  
the target response includes providing at least one of a beeping sound, musical notes and a  
vocal sound.

13. The mobile wireless communications device according to claim 2, wherein  
the target response includes e-mailing a programmed message from the mobile wireless

communications device to a programmed destination.

14. The mobile wireless communications device according to claim 2, wherein  
the target response includes generating a visual alert on the mobile wireless communications  
5 device.

15. The mobile wireless communications device according to claim 2, wherein  
the target response includes changing a level of a control parameter of the mobile wireless  
communications device.

16. The mobile wireless communications device according to claim 15, wherein  
changing a level of a control parameter of the mobile wireless communications device  
includes lowering a volume of a ringing device of the mobile wireless communications  
device.

17. The mobile wireless communications device according to claim 2, wherein  
the target response includes switching from a first mode to a second mode of the mobile  
wireless communications device.

18. The mobile wireless communications device according to claim 17,  
wherein the first mode is a ringing mode, and  
wherein the second mode is a vibrating mode.

19. The mobile wireless communications device according to claim 2, wherein the target response includes at least two responses selected from the group of responses consisting of: displaying a message on the mobile wireless communications device, generating a beeping sound by the mobile wireless communications device, generating musical notes by the mobile wireless communications device, generating a vocal sound by the mobile wireless communications device, e-mailing a programmed message from the mobile wireless communications device to a programmed destination, generating a visual alert on the mobile wireless communications device, changing a level of a control parameter of the mobile wireless communications device, and switching from a first mode to a second mode of the mobile wireless communications device.

20. The mobile wireless communications device according to claim 2, wherein the target location is a plurality of target locations.

21. The mobile wireless communications device according to claim 20, wherein the target range area is at least one target range area, and wherein each target location corresponds to a respective target range area.

22. The mobile wireless communications device according to claim 20, wherein the target response is at least one target response, and wherein each target location corresponds to at least one respective target response.

23. A mobile wireless communications device that provides location-based responses and is in communication with a positioning system, the mobile wireless communications device comprising:

an antenna;

5 a memory unit in which are programmed a range area, a target location and a target message; and

a determining unit that determines a location of the mobile wireless communications device from location information received from the positioning system via the antenna,

10 wherein, if the determining unit determines that the determined location of the mobile wireless communications device is outside of the target range area that corresponds to the target location, then the mobile wireless communications device provides the target response corresponding to the target location.

24. A method for providing location-based messaging, comprising the steps of:

15 programming a target location, a target range area and a target message into a mobile wireless device, the target range area and the target message corresponding to the target location;

receiving location information via an antenna of the mobile wireless device;

20 determining a location of the mobile wireless device based on the location information; and

displaying the target message if the determined location falls within the target range area of the target location.

25. The method according to claim 24, further comprising the step of:  
deleting the displayed target message after acknowledging the displayed target  
message.

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26. The method according to claim 24, further comprising the step of:  
disabling the target message corresponding to the displayed target message if the  
displayed target message is not to be deleted.

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27. The method according to claim 26, wherein the step of disabling the target  
message includes the step of disabling the target message in accordance with a time  
parameter.

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28. The method according to claim 26, wherein the step of disabling the target  
message includes the step of disabling the target message as long as the mobile wireless  
device remains within the target range area corresponding to the displayed target message.

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29. A method for providing location-based responses, comprising the steps of:  
(a) programming a target location, a target range area and a target response into a  
mobile wireless communications device, the target range area and the target response  
corresponding to the target location;

(b) receiving location information via an antenna of the mobile wireless

communications device;

(c) determining a location of the mobile wireless communications device based on the location information; and

(d) providing the target response if the determined location falls within the target range area of the target location.

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30. The method according to claim 29,

wherein the target location is a plurality of target locations,

wherein the target range area is at least one target range area,

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wherein the target response is at least one target response, and

wherein each of the target locations is associated with at least one corresponding target range area and at least one corresponding target response.

31. The method according claim 29, further comprising the step:

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(e) repeating step (d) for each of the target locations.

32. The method according to claim 31, further comprising the step:

repeating steps (b), (c), (d) and (e) for a plurality of locations of the mobile wireless communications device.

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33. The method according to claim 29, wherein the step (a) includes the step of storing present location of the mobile wireless communications device as the target location



if the mobile wireless communications device is presently at the target location.

34. A system for providing location-based messaging, comprising:

5 means for programming a target location, a target range area and a target message into a mobile wireless device, the target range area and the target message corresponding to the target location;

means for receiving location information;

means for determining a location of a mobile handheld device based on the location information; and

10 means for displaying the target message if the determined location falls within the target range area of the target location.

35. A system for providing location-based responses, comprising the steps of:

15 means for programming a target location, a target range area and a target response into a mobile wireless communications device, the target range area and the target response corresponding to the target location;

means for wirelessly receiving location information;

means for determining a location of the mobile wireless communications device based on the location information; and

20 means for providing the target response if the determined location falls within the target range area of the target location.